



US009410991B2

(12) **United States Patent**
Masuda

(10) **Patent No.:** **US 9,410,991 B2**
(45) **Date of Patent:** **Aug. 9, 2016**

- (54) **ATTACHMENT STRUCTURE OF CURRENT SENSOR AND ELECTRIC CONDUCTIVE MEMBER**
- (71) Applicant: **YAZAKI CORPORATION**, Tokyo (JP)
- (72) Inventor: **Satoki Masuda**, Kakegawa (JP)
- (73) Assignee: **YAZAKI CORPORATION**, Tokyo (JP)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 18 days.

8,709,627 B2 *	4/2014	Matsushima	G01R 31/3696 324/156
2008/0094060 A1 *	4/2008	Muraki	B82Y 25/00 324/252
2008/0105476 A1 *	5/2008	Korich	H02M 7/003 310/71
2012/0164867 A1	6/2012	Matsumoto et al.	
2013/0214593 A1 *	8/2013	Ohashi	G01R 15/207 307/10.1
2013/0320968 A1 *	12/2013	Sakamoto	G01R 33/0094 324/244
2014/0184212 A1 *	7/2014	Yamaguchi	G01R 15/207 324/244

FOREIGN PATENT DOCUMENTS

(21) Appl. No.: **14/662,436**

JP 2011060438 A 3/2011

(22) Filed: **Mar. 19, 2015**

* cited by examiner

(65) **Prior Publication Data**

US 2015/0268278 A1 Sep. 24, 2015

Primary Examiner — Daniel Miller

(74) *Attorney, Agent, or Firm* — Sughrue Mion, PLLC

(30) **Foreign Application Priority Data**

Mar. 20, 2014 (JP) 2014-058283

(57) **ABSTRACT**

- (51) **Int. Cl.**
G01R 15/18 (2006.01)
G01R 15/20 (2006.01)
- (52) **U.S. Cl.**
CPC **G01R 15/207** (2013.01); **G01R 15/202** (2013.01)
- (58) **Field of Classification Search**
CPC G01R 15/207; H01F 38/28; H01F 38/30
See application file for complete search history.

In an attachment structure, a current sensor and an electric conductive member are attached to a housing in a state in which an electric connection portion of the electric conductive member is passed through a measurement hole of the current sensor. The current sensor includes a guide protrusion protruding from a sensor body. The housing includes: a guide wall portion including a guide wall which includes a first side surface opposing the electric conductive member, and which extends along a first direction in which the sensor body moves when attached to the housing, to guide the guide protrusion; and a rotation restricting wall portion which is disposed on the first side surface, and which restricts the electric conductive member from being rotated by a load that is imposed when the electric conductive member is connected to a connection counterpart.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 5,831,425 A * 11/1998 Ochiai G01R 1/203
324/117 R
- 6,472,878 B1 * 10/2002 Bruchmann G01R 15/202
324/117 H

3 Claims, 9 Drawing Sheets

